

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The specific structure of the claimed invention whereby electrical connection is made between the power component and the second face of the support substrate is, as yet, not clearly defined. Not only is the specific structure of the power component not fully defined, but it is also unclear what region of the power component is electrically connected to the second face of the substrate. In addition, the “electrically conducting means” of the support substrate is not clearly defined as to its specific structure.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12 are further rejected, insofar as understood, under 35 U.S.C. 103(a) as being unpatentable over Assaderaghi et al and Warick, both of record, and further in view of Kitamura et al (2002/0017697). The discussion of the Assaderaghi et al and Warick references is hereby

Art Unit: 2815

incorporated by reference from the previous rejection. Kitamura is cited to further teach the well known combination of epitaxial layers formed on an SOI layer, as part of the overall structure of a power semiconductor device.

For example, see the FIG. 15 configuration in Kitamura, along with the discussion at [0003] and [0112] where Kitamura shows power device which includes an epitaxial layer (208) which, in turn, is formed on a stacked structure that includes semiconductor layer (207), insulating layer (204) and substrate (202).

As stated in the previous action, Assaderaghi et al and Warick teach forming an electrical connection between an active device and the bottom contact of a supporting substrate, as claimed.

Taken together, these references appear to show all of the claimed features. One skilled in the art would be motivated to combine these references in order to achieve more compact structures, as discussed by the references.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward Wojciechowicz whose telephone number is 571-272-1739. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Parker can be reached on (571) 272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2815

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edward Wojciechowicz/
Primary Examiner, Art Unit 2815

Edward Wojciechowicz
Primary Examiner
Art Unit 2815

EW: ew